

A low-bit-rate coding technique for unvoiced segments of speech, without loss of quality compared to the conventional Code Excited Linear Prediction (CELP) method operating at a much higher bit rate. A set of gains are derived from a residual signal after whitening the speech signal by a linear prediction filter. These gains are then quantized and applied to a randomly generated sparse excitation. The excitation is filtered, and its spectral characteristics are analyzed and compared to the spectral characteristics of the original residual signal. Based on this analysis, a filter is chosen to shape the spectral characteristics of the excitation to achieve optimal performance .

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